City of Renton
Water Use Efficiency Program

Information Packet for Goal Setting Meeting
Wednesday, November 7, 2007
7 p.m.
Highlands Neighborhood Center, 800 Edmonds Ave. NE, Renton

Background

The Water Use Efficiency Rule

The State of Washington has adopted the Municipal Water Supply-Efficiency Requirements Act, commonly called the **Municipal Water Law** (MWL) or the Water Use Efficiency Rule. To meet the requirements of this new rule, the City of Renton must develop measurable water use efficiency goal(s) using a public process and those goals must be approved by the City Council no later than January 22, 2008.

The MWL is intended to help meet the growing needs of communities, agriculture, industry, and to conserve water for fish. The Water Use Efficiency rule went into effect on January 22, 2007 and is intended to:

- Provide more certainty and flexibility for water rights held by water systems.
- Improve the ability to plan for future growth.
- Offer greater flexibility to solve public health problems with water right changes and transfers.
- Advance water use efficiency.
- Assure greater reliability of safe drinking water for communities.

What are the requirements of this rule?

The rule requires municipal water suppliers such as Renton to use water efficiently and demonstrate that they are doing so. Specifically, water systems must:

- Develop goals through a public process and enact water use efficiency measures to manage water use.
- Reduce water system leakage to 10 percent or less.
- Install meters on all customer connections by 2017 to accurately account for water use and leakage.
- Report annually on their progress in using water efficiently.

How will this affect Renton?

To comply with this rule, we are:

- Conducting a water system audit that will allow us to account for all water used.
- Setting goals for water use efficiency through a public process, which will result in new conservation measures and the reaffirmation of current conservation measures.
- Re-evaluating our water supply and our forecasts for future water demands.

- Reporting each year on our progress toward these goals as part of the Consumer Confidence Report we send to all customers.

Renton's Water

Water Supply Characteristics

All of our drinking water comes from groundwater. Based on production of the last five years, about 85 percent of our drinking water is supplied by five wells located in downtown Renton, which is pumped from a source known as the Cedar Valley Aquifer. Approximately 14 percent comes from Springbrook Springs, which is located at the south end of the City. These water sources are very clean and need minimal treatment.

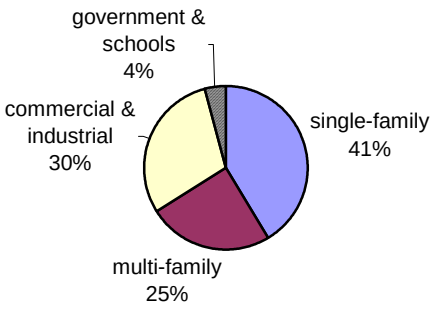
The City also pumps from three deep wells known as the Maplewood well field located under the Maplewood golf course. These wells are a backup water source and, as such, are not utilized continuously. The Maplewood water is also very clean, but because of its natural mineral content, it must first be treated before it can be co-mingled with the water from the other sources.

Water Use Characteristics

The City's customer and water use characteristics are important considerations for identifying water use efficiency objectives, goals and measures.

Who uses the water. Water use in 2006 by class (residential, commercial/industrial and government & schools) shows single-family and multi-family residences used two thirds of the total water consumed. The commercial/industrial customer class used 30 percent with government (includes schools) using approximately 4 percent.

Figure 1. Water Use by Customer Type 2006

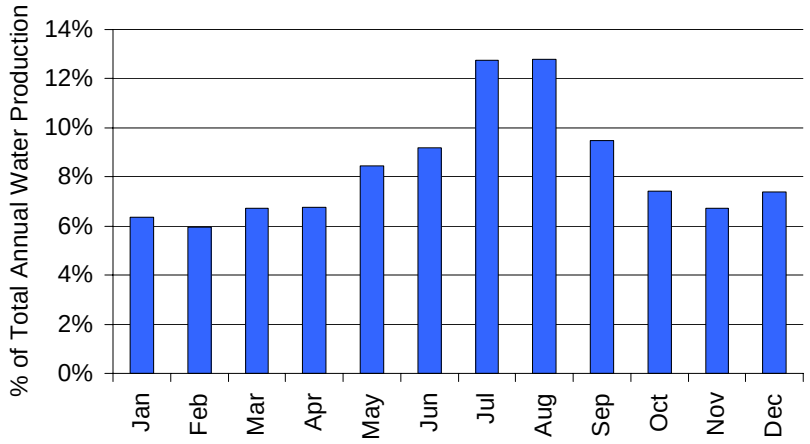


When does the water get used. Water consumption is closely related to weather. Year to year variations reflect drought years, hot years or wet years. The largest variations in water use are seasonal. Typically in Renton, the highest water use is during the period of June through

September. During these four months, the average monthly water consumption is about 70 percent higher than the other eight months of the year. The average day consumption in 2006 was 8 million gallons. The peak day use in 2006, which occurred on July 24, was 15.3 million gallons. Looking at consumption on an hour by hour basis reveals that during a peak summer hour consumption can be four to five times that of the annual average. This increase in summer use is due primarily to irrigation.

Figure 1

Water Production for 2006
By Month



Water Demand Forecast

Although our water service area is not anticipated to change, we expect population and the demand for water to increase over time as population densities increase within our service area. We anticipate the average day demand will increase from 8 million gallons per day (mgd) in 2006 to about 11 mgd in 2025. This forecast assumes that the average annual water use will be reduced by 0.5 percent each year through water conservation measures. The City's annual water rights are 13.2 mgd and therefore are sufficient to meet the estimated demands through 2025.

Current Water Use Efficiency Program

What are Renton's current conservation goals?

In the 2006 Renton Water System Plan, we set a goal to reduce water use by 0.5 percent per year through 2020. While our population has increased an average of 2.5 percent per year since 1988, the amount of water consumed by each person has decreased by about 2 percent per year on average. In other words, even though there are more people in the area using water, individual customers are generally using less water. The City's goal is to continue to reduce its per person water use, especially during the peak day and peak season. While the City's annual water rights are sufficient to meet average annual demands through 2025, the City and those it serves must

work to reduce peak day and peak season demands in order to remain below its instantaneous water rights.

Water conservation measures currently in place.

Since the early 1990s, Renton has implemented conservation measures focusing on both the water supply (supply side) and the water users (demand side). Supply side conservation measures that have been implemented include metering of water production wells and a leak detection program. On the demand side, water meters have been installed on all water services. The City has an active leak detection program as well as a proactive main replacement program.

Also on the demand side, Renton has implemented educational programs focused on both indoor and outdoor customer uses of water. Examples of educational programs include:

- Customer's historical use shown on each water bill.
- Classroom presentations.
- Educational materials distributed at local fairs and events.
- City-owned demonstration garden featuring low water plants.
- Natural Yard Care workshops.
- Participation in regional campaigns as members of the Partnership for Water Conservation.

Renton also participates in the WashWise washing machine rebate program.

Proposed Water Conservation Goals

The Municipal Water Law requires the setting of measurable goals to provide benchmarks for progress and help define the success of the Water Use Efficiency program. The first step for proposing goals is to define our water system's objectives. Renton's objectives for saving water are:

- To ensure sufficient water supply for continued growth within its service area.
- Reduce peak day and peak season demands.
- To continue the historical trend of reduction in customer water usage.

Our proposed water use efficiency goals follow naturally out of these objectives. Our proposed goals are:

- On the supply side, to reduce distribution system leakage (DSL) to ten percent or less by 2010.
- On the demand side, cap the peak day demand at 16.5 mgd until 2015.
- On the demand side, to continue reduction of average annual water use by 0.5 percent per year.

Proposed Water Use Efficiency and Conservation Program

Meeting our stated goals will be accomplished through the implementation of cost-effective, quantifiable water use efficiency measures. The MWL requirements include both mandatory and optional measures for implementation and evaluation. As a municipal water supplier Renton is required to implement or evaluate seven mandatory measures, as well as nine measures of our choice in its WUE plan. Table 1 lists the mandatory water use efficiency measures and Renton's compliance status.

Table 1. Measures with Mandatory Implementation or Evaluation for Water Use Efficiency Program as Selected by Department of Health

Requirement Status	Measure	Implementation / Evaluation Status
Mandatory Implementation	1) Production Meters	Currently implemented and documented in 2006 WSP.
	2) Consumption Meters	Currently implemented and documented in 2006 WSP.
	3) Meter Calibration	Partially implemented. To be updated and documented in the Water Loss Control Action Plan and the 2008 WUE Plan.
	4) Methods for Controlling Leakage	Partially implemented. To be updated and documented in the Water Loss Control Action Plan and the 2008 WUE Plan.
	5) Education	Currently implemented.
Mandatory Evaluation, Implementation Optional	6) Rate Structure	To be implemented in 2008 and documented in 2008 WUE Plan.
	7) Reclaimed Water Use(1)	To be evaluated for 2008 WUE Plan.

Notes: (1) Evaluation is being done primarily by King County.

Proposed Water Use Efficiency Measures

Reduction of Distribution System Leakage (DSL) to 10 percent is a mandatory requirement of the MWL. The Department of Health states in its WUE Guidebook that achieving the 10% or less DSL should be a priority. To achieve this goal, a Water Loss Control Plan will be developed and implemented in 2008.

Reduction in the demand side to meet our 0.5 percent annual reduction goal will be accomplished through continuation of the current conservation program as presented in our Water System Plan and listed in Table 2, Continuing Demand Side Conservation Measures.

Reduction of the peak day demand will require new and increased efforts in our outside water conservation efforts. The new rate structure to be implemented in 2008 will encourage all customers to be more aware of and reduce their summer irrigation.

Table 2. Continuing Demand Side Conservation Measures

Category	Measure Options[1]
Indoor Residential	1. Classroom presentations 2. Water bill consumption history 3. WashWise washing machine rebate program 4. Advertising [2] 5. Toilet leak detection tablets
Outdoor	6. Festival displays and hose washers 7. Demonstration Garden 8. Advertising [2] 9. Natural yard care workshops 10. Water bill consumption history
ICI (industrial, commercial, institutional)	11.Water Bill Consumption History

Note:
(1) The Department of Health requires that at least nine additional supply side or demand side conservation measures be evaluated. By continuing to implement the eleven demand side measures shown here, the City is meeting this requirement.
(2) Implemented by Partnership for Water Conservation (PWC), of which the City is a member.

Substantial water savings can be achieved in subsequent years by implementing measures that other water suppliers have found cost effective. As budget allows, it is proposed that the City offer single-family residential audits for manual irrigation systems as well as audits for automatic irrigation systems in ICI (industrial, commercial and institutional) settings.

This program will be reviewed and results reported in the next Consumer Confidence Report. The goals must be re-evaluated every six years unless we find it advisable to change the goals earlier than that, by following the same process used to set the original goals.